

Clmpto

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1. (Currently Amended) A sheet material information detecting device for detecting information on a sheet material, comprising:

a sheet material transport means for transporting a sheet material along a sheet material transport path;

a force applying means for applying an external force to the sheet material in the sheet material transport path;

an external force detecting means for detecting information corresponding to a force existing after attenuation of the external force applied to the sheet material; and

a positioning means for positioning the sheet material, wherein, when the external force is to be applied, the positioning means performs positioning of the sheet material such that a distance between the sheet material and the external force detecting means opposed to the sheet material is a predetermined value not less than 0.

2. (Currently Amended) A sheet material information detecting device according to Claim 1, further comprising a sheet material displacing means comprising a sheet material displacing member protruded protruding into the sheet material transport path and adapted to displace the sheet material on basis of coming into upon contact with the sheet material.

3. (Currently Amended) A sheet material information detecting device according to Claim 1, wherein the external force applying means comprises an external force applying member for applying an external force to the sheet material ~~on basis of coming into~~ upon contact with the sheet material, the sheet material information detecting device further comprising an external force receiving member arranged at a position opposed to the external force applying member and adapted to receive the external force from the external force applying member.

4. (Currently Amended) A sheet material information detecting device according to Claim 2, wherein the external force applying means comprises an external force applying member for applying an external force to the sheet material ~~on basis of coming into~~ upon contact with the sheet material, and

wherein the sheet material displacing member is arranged at a position opposed to the external force applying member and functions as is an external force receiving member adapted to receive the external force from the external force applying member.

5. A sheet material information detecting device according to Claim 3, wherein the external force detecting means supports the external force

receiving member and detects an external force received by the external force receiving member.

6. (Currently Amended) A sheet material information detecting device according to Claim 3, wherein the external force detecting means is mounted on a side of the external force applying means and detects an external force through the external force applying means.

7. (Currently Amended) A sheet material information detecting device according to Claim 4 †, wherein the sheet material displacing means determines at least one of a position of the sheet material with respect to the external force detecting means, a position of the sheet material with respect to the external force applying member, and a position of the sheet material with respect to the external force receiving member.

8. A sheet material information detecting device according to Claim 7, wherein the sheet material displacing member brings the sheet material into contact with the external force receiving member.

9. (Currently Amended) A sheet material information detecting device according to Claim 2, further comprising an auxiliary displacing member on a side opposed to the sheet material displacing member with interposition of the sheet material therebetween, wherein the auxiliary displacing member brings the sheet material into contact with the sheet material displacing member.

10. (Currently Amended) A sheet material information detecting device according to Claim 1, wherein the sheet material displacing member additionally further comprises a sheet material sensor for detecting a state and position of the sheet material.

11. A sheet material processing apparatus comprising the sheet material information detecting device as claimed in Claim 1, and a sheet material processing portion for performing processing of the sheet material based on a detection result obtained by the sheet material information detecting device.

12. A signal output device comprising an external force applying portion for applying an external force to a sheet material and a signal output portion for outputting a signal upon application of the external force, wherein a displacing member for controlling a position of the sheet material is provided at a position opposed to the external force applying portion with interposition of the sheet material therebetween.

13. (Currently Amended) A method of obtaining information on a sheet material, comprising the steps of:

supplying a sheet material to a position between a force applying means for applying an external force to the sheet material and a detecting means for detecting information corresponding to a force existing after attenuation of the external force applied to the sheet material;

positioning the sheet material such that a distance between the sheet material and the detecting means opposed to the sheet material is a predetermined value not less than 0; applying an the external force to the positioned sheet material; and detecting information on the sheet material.

Art Unit: 2800

14. (Currently Amended) An image forming apparatus comprising:  
a sheet transport means for transporting a sheet material;  
an information detecting device for detecting information on a sheet material;

and

an image forming means for forming an image on the sheet material,  
wherein the information detecting device comprises a sheet material displacing  
means for displacing the transported sheet material to a proper position, and means for applying  
an external force to the displaced sheet material.